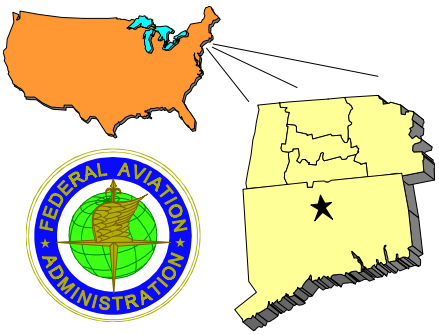
Airwaves

News from the Windsor Locks Flight Standards District Office Winter, 1999-2000 No. 36

Serving Connecticut and Western Massachusetts



In This Issue

Click on index title to go directly to article

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www.airsafety.org/airwaves.html

or

www.faa.gov/region/ane/flightstds/windsor.html

Cleaning Fire-Resistant Fabrics

by Bert Labbe, Principal Maintenance Inspector, NE-FSDO-03

Flammable materials manufactured for use in the passenger compartment interior of aircraft must meet specific burn standards. The specific requirement whether it is flame resistant, flash-resistant, or fire-resistant, depend largely on the application, operating rule, and certification basis of the aircraft. It must be understood that all flammability tests to demonstrate compliance must be witnessed by the Federal Aviation Administration (FAA) or their representatives. The material manufacturer is not the FAA or their representative. Therefore, your cabin interior should have been installed either as part of the type certification process or after the original Certificate of Airworthiness was issued using FAA approved material.

The required flammability protection of your aircraft cabin interior could be removed by cleaners used to remove soil and stains. Fabrics such as polyesters or other decorative covering materials used in upholstery, side wall, headliners, etc., must be chemically treated in order to pass the applicable flammability tests. In general, products made from natural fibers, such as wool, are naturally fire resistant and pass applicable material test criteria without being chemically treated with a fire retardant.

Certain cleaners and/or the cleaning method itself are known to remove and/or degrade the fire retardant treatment. This alters the fire-resistant properties of the material to an unacceptable level. Therefore, before cleaning such fabrics, it is important to contact the individuals that can provide accurate guidelines in the form of DO'S and DON'TS for your aircraft interior.

We suggest that you contact the material manufacturer and burn test facility for the specifics on the material used in your aircraft interior. Why? Because the manufacturing and fire retardant treatment method differ between manufacturer. Therefore, even look-alike material may require different care.

In general, aircraft carpets are manufactured with a durable fire retardant. This means that the fire retardant method used during manufacture cannot be removed during cleaning. Some manufacturers treat the backing bottom surface with a latex, others use a 100% latex or latex composite type backing which results in a durable fire retardant manufactured into the carpet backing. The fire retardant properties of these type of carpet are not affected by the correct cleaning procedure. *Again, call the carpet manufacture and burn test facility for the specifics on your carpet.*

In some applications, bulkheads that divide cabin sections and even some compartments

Continued on page 2

Continued from page 1

in corporate type aircraft are carpeted with a material made of nomex/polyester or nomex/nylon. *Contact the manufacturer of your bulkhead material for cleaning specifics.* Cleaners containing chloride or chloride products will damage the nomex material.

Re-treating Fabrics with a Fire Retardant:

All fabrics including chemically treated fabrics require flammability tests to determine if they meet the applicable certification criteria. Simply applying a commercially available fire retardant to retreat chemically treated fabric raises at least a few questions:

- Does this re-treatment revalidate or supersede the initial burn test certification?
- Does the treating of fabric in the field, eliminate the need for further burn tests?
- Is this maintenance or preventive maintenance?
- Some cleaning instructions state that a fabric covered seat must be retreated using a fire retardant after a specific amount of extensive cleanings. Who determined this and is this an approved procedure?

"Cleaners containing chloride or chloride products will damage the nomex material."

Some manufacturers of fire retardant also claim passing FAR Sections 25.853 and 23.853. I have no proof that this claim is correct. You will not find the FAA's approval on the back of the can. I believe the answers to the above questions would become evident if you use the following two options: obtain FAA approved Instructions for Continued Airworthiness or, send a hunk of material before treatment and another after treatment, to a FAA recognized burn test facility.

A Word about Flight Manual Supplements

by Vic Musante, Principal Avionics Inspector, NE-FSDO-03

Any modification to an aircraft which changes performance or the operating limitations or operating procedures necessary for safe operation must include an Airplane or Rotorcraft Flight Manual Supplement (FMS) and is by definition a "major alteration". Field approved or Supplemental Type Certificate (STC) alterations frequently include a FMS. The applicant is responsible for preparing the flight supplement that addresses the changes. Once the flight manual supplement is approved, it must be attached to the FAA Approved Flight Manual (AFM).

So what's the deal! Presently, Aviation Safety Inspectors in the Flight Standards District Office (FSDO) can only approve Flight Manual Supplements for GPS (Global Proximity System) and TCAD (Traffic Collision Avoidance Detection) systems. All other Flight Manual Supplements are sent to the Aircraft Certification Office (ACO) in Burlington, MA, for review and approval. The procedure is to submit the proposed alteration on FAA Form 337 along with the proposed Flight Manual Supplement to the FSDO for review by an authorized inspector. Once the inspector determines that the alteration can be processed by field approval, he or she will then forward the Flight Manual Supplement to the ACO for review and approval. The operator should not start the alteration until the data submitted is approved and this includes the Flight Manual Supplement.

FAA Form 337 is reviewed by the FSDO inspector and then submitted to the ACO for approval of the FMS. This takes time!

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The ACO flight test personnel will review the FMS for format and pilot language. Verification of correctness is made by the FSDO inspector making the field approval of the data in block 8 of the 337. This data may also be reviewed at the ACO. Presently, there is only one flight test pilot covering both the New York and Boston area ACO. The signed supplement is then returned to the approving inspector at the FSDO for return to the applicant. This does not happen overnight! Operators and installers need to be aware of this and should not do the work prior to approval of the data which includes the FMS. Operators and installers need to seek approval prior to installing or making alterations that will require a Flight Manual Supplement.

"The procedure is to submit the proposed alteration on FAA Form 337 along with the proposed Flight Manual Supplement..."

JAA Supplement Contents

by Arnie Paye, Principal Maintenance Inspector, NE-FSDO-03

Before a repair station may be accepted by the Joint Aviation Authority (JAA) under Joint Aviation Regulation (JAR) Part 145, the repair station must prepare a JAA Supplement to its Inspection Procedures Manual. This supplement is based on the JAA Special Conditions contained in the Maintenance Implementation Procedures (MIP) of a Bilateral Aviation Safety Agreement, and must be reviewed by the Flight Standards District Office (FSDO) for compliance with JAA requirements. Specific guidance for preparing a JAA Supplement is contained in JAA Maintenance Leaflet 22 (TGL 22) and Chapter 168 of Order 8300.10. The following list is an overview of the supplement sections:

1. *List of Effective Pages* - must contain the page number of each section and the current revision date of each section.

2. *Amendment Procedure* - describes the procedure used to ensure the Supplement remains current.

3. *Introduction* - addresses purpose of the Supplement.

4. *Accountable Manager's Commitment Statement* - ensure a statement is included indicating the repair station will comply with the provisions of the supplement that is signed by the repair station's accountable manager. A sample statement is include in TGL 22 and Chapter 168. The accountable manager is the person who has corporate authority for ensuring that all maintenance required by an aircraft operator can be financed and performed to the standards required by JAR 145.

5. *Acceptance Basis and Limitation* - this section must indicate that JAA acceptance is based on compliance with FAR Parts 43, 145 and the JAA Special Conditions. The scope of work is limited to that work specified in the FAA Operations Specifications.

6. *Access by the JAA and FAA* - the repair station must agree to allow JAA, JAA member NAA, or FAA staff access to the repair station.

7. *Work Orders/Contracts* - this section must establish procedures the repair station will follow to ensure it obtains clear instructions from the customer specifying the work to be accomplished.

8. *Approved Design Engineering Data* - data must be approved by the JAA member NAA before working on the product. FAA Approved does not necessarily mean JAA

Approved. DER (Designated Engineering Representative) data may not be acceptable.

9. *Airworthiness Directives* - procedures the repair station will follow if the customer requires foreign AD's accomplished on the product.

10. *Major Repairs/Alterations/Modifications* - procedures to ensure the customer has obtained NAA approval for the data.

11. *Release of Components after Maintenance* - the repair station must use FAA Form 8130-3 as a maintenance release, and include a specific statement in block 13. The use of PMA parts may not be approved automatically by the NAA.

12. *Certificate of Airworthiness Validity* - if the repair station will be performing maintenance on entire aircraft, it must have procedures to ensure the Certificate of Airworthiness (C of A) is valid. C of A's issued by JAA member NAA's have expiration dates.

13. *Release of Aircraft after Maintenance* - procedure the repair station must follow to complete the records after performing maintenance on an aircraft. This section must also describe the procedures to be followed if it was not possible to complete or perform all maintenance.

14. *Reporting of Unairworthy Conditions* - describe procedures used to report serious defects in JAA member aircraft or components. Identity of the customer must be included.

15. *Quality Monitoring System* - a description of the internal audit procedures and the management control and follow-up system. This will probably be a lengthy and time consuming section to write. Additional information on this subject can be found in Advisory Circular 145-5.

16. *Provision of Hangar Space for Aircraft Maintenance* - The repair station must have sufficient space available for the entire aircraft.

17. *Contracted Maintenance* - contracted maintenance organizations must be specified. They must be either JAA accepted or included in the Quality Monitoring System of the repair station.

Appendix 1 - Sample Audit Program - include a sample of an internal audit schedule for one product line.

Appendix2 - Line Stations - if the repair station is also an air carrier, ensure each line station used by a JAA member NAA regulated aircraft is listed.

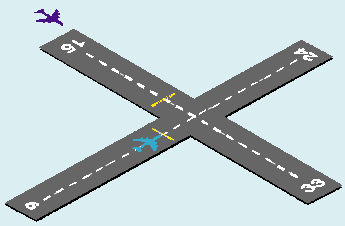
Appendix 3 - FAA Form 8130-3 - sample of the completed form, instructions for completion and persons authorized to issue the form.

Appendix 4 - Components Authorized for Use During Maintenance and Alterations - procedures to ensure that parts acceptable to the JAA are used. Details are in TGL 22.

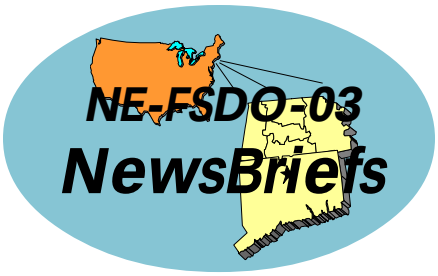
As you can see, a lot of information must be contained in this document. To assist in standardizing the JAA Supplements, please use the section numbers and appendixes listed above (and in TGL 22). This will help in the review of your manual, and any revisions in the future.

Please remember, this article is only an overview of the JAA Supplement. Please refer to TGL 22 (download from *www.jaa.nl/divisions/mainpdf.htm*) for further details, and contact your PMI if you have any questions.

Preventing Runway Incursions



The FAA sent letters out to all Certified Flight Instructors (CFI) and Designated Pilot Examiners (DPE) requesting their cooperation in promoting and intergrating runway incursion awareness into training and testing activities. In the letter the FAA states that it would like to reduce runway incursions 15% of the 1997 level by the end of 2000. Instructors and Examiners are asked to discuss good ground taxiing procedures with their students and applicants and other pilots whenever possible. Among the points to emphasize are reading back all runway crossing and land short clearances; the need to know airport signage and airport layouts; reviewing NOTAMS and ATIS information; use of progressive taxiing instructions when unsure of your taxi route; and good radio phraselogy. Aviation Safety Inspectors in our office will be emphasizing these points during pilot evaluations, especially initial CFI applicants.



Copies of FAA Bulletins, Advisory Circular (AC) Checklist, notices of rule changes, and other Flight Standards information, can be downloaded from the Internet world wide web at ***www.faa.gov/avr/afshome.htm****. You may also contact your local FSDO for a copy of a particular bulletin. AC's may be ordered from, the Superintendent of Documents, PO Box 371954, Pittsburgh, PA 15250-7954 (phone orders: 202 512-1800;fax: 202 512-2250). Master Minimum Equipment Lists (MMEL) may be downloaded from the internet at* ***www.opspecs.com*** *or you can request the specific MMEL from your local FSDO.*

Winter 1999-2000 Deicing Program

The FAA released its latest version of the annual FAA Approved Winter Deicing Update, bulletin FSAT 99-07 dated 10/1/99. The bulletin provides revised Society of Automotive Engineers (SAE) approved holdover timetables and the associated guidelines for the application of various deicing and anti-icing fluid mixtures. It also includes one additional FAA approved manufacturer specific Type II fluid holdover timetable (i.e., Kilfrost ABC-II Plus) and six FAA approved manufacturer specific Type IV fluid holdover timetables (i.e., Union Carbide Ultra+, Octagon Max-Flight, Kilfrost ABC-S, Safewing MPIV 1957, Safewing MPIV 2001, And SPCA AD-480). In addition, the bulletin presents a listing of all qualified Type I, Type II, and Type IV fluids for the 1999-2000 winter icing season, and updated information and recommendations on various other ground deicing/anti-icing findings that have surfaced over the past year. This bulletin cancels bulletins FSAT 97-10, FSAT 97-10A, FSAT 97-10B, and FSAT 98-17B, which contained previously issued holdover timetables and other related information.

The bulletin also contains an interesting discussion on "fluid dry-out" which may result in restricted movement of flight control surfaces while an aircraft is in flight. Fluid dry-out can occur after repeated use of Type IV and possibly Type II fluid, without prior application of hot water or Type I fluid mixtures. This can result in fluids collecting in aerodynamically quiet areas or crevices which do not flow off the wing and can dry to a gel-like or powdery substance. Such residues have been known to rehydrate and expand under certain atmospheric conditions, such as high humidity or rain, and then subsequently freeze, typically during flight at higher altitudes. This can be especially critical for unpowered control surfaces such as trim tabs. Please refer to the bulletin for further information. If you have any questions, please contact your principal inspector.

Controlled Flight Into Terrain Training Aid

As a result of increased emphasis on preventing instances of Controlled Flight Into Terrain (CFIT), the FAA announced the availability of a CFIT training aid for all operators (Bulletin FSAT 99-08). The training aid, which contains the CFIT training document and associated digitized video's, is supposed to be sent out to all FAA Flight Standards District Offices and many Part 121 or 135 operators on CDROM media. However, although our office did receive a copy of the CDROM, we understand that this distribution has yet to be made to many offices and operators. The CFIT Training document minus the video's is available at *www.faa.gov/avr/afs/train.htm*. We have, however, experienced difficulty in printing out the training aid document from the above website. If you have not received the training aid, or have been unable to successfully download or print the training aid, please call 202 267-3723, or contact your assigned principal inspector.

Failure of JT8D Combustion Chamber Outer Case Bolts

An error occurred during the manufacturing process of certain bolts used in Combustion Chamber Outer Case of some JT8D engines, which resulted in insufficient nickel being plated to some of the bolts in a suspect lot. This error could lead to embrittlement of the bolt and subsequent failure. The bolts were produced by Approved Quality Manufacturing (AQM) of Sandy, Utah, which subcontracted M.S. Aerospace of Sylmar, California, to manufacture the bolts. M.S. Aerospace in turn subcontracted Process Control Laboratory, Burbank, California, to perform the NiCd plating operation on the bolts. The problem has been traced to one manufacturing batch of M.S. Aerospace bolts resulting in two AQM non-conforming lot numbers, 30246 and 30248, totaling 24,375 non-conforming bolts. Eight conforming similar lots of bolts were produced under the Parts Manufacturer Approval (PMA No. 772568QQ), resulting in a total production of 79,690 conforming and non-conforming bolts. These bolts may be found installed on Pratt and Whitney JT8D-1 through 17AR, and JT8D-200 series engines, which are primarily installed on Boeing B727, B737, DC-9, and MD-80 aircraft. The non-conforming

lots were shipped to customers from 9/98 to 6/99. Please refer to FAA Bulletin FSAW 99-07 for additional details and recommended action by affected operators and repair stations.

FAA Promotes Voluntary Accreditation of Part Distributors

In 1993, the FAA strongly endorsed the Aerospace Industry Registration of Distributors (AIR-DU) Task Force effort to pursue voluntary industry oversight of distributors of civil aircraft parts in lieu of mandatory Federal regulation. The Task Force was comprised of representatives of the FAA and various industry organizations and associations. In 1996, the Task Force developed AC 00-56, entitled the Voluntary Industry Distributor Accreditation Program (VIDAP), which describes a system for the voluntary accreditation of civil aircraft parts distributors, on the basis of voluntary industry oversight, and provides information that may be used for developing accreditation programs. The FAA believes such programs would assist in alleviating one of the causes of suspected unapproved parts and would improve part traceability and associated documentation. Since distributors are not regulated, the FAA believes a third party accreditation program, as described in AC 00-56, would provide assurance that the distributor has an appropriate quality system and has demonstrated the ability to maintain the quality and documentation system. Parts procured from "accredited distributors" would convey assurances of the quality of the parts ordered by the purchaser.

The FAA is now taking this program one step further by encouraging air carrier, repair stations, and other certificate holders or applicants to procure parts from distributors participating in the accreditation program. In the event the applicant or certificate holder is not using accredited distributors, FAA inspectors are requested to determine the adequacy of the distributors. Further details can be found in FAA Bulletin HBAW 99-13 and AC 00-56.

Hot Refueling Helicopter Operations

Although "*hot*" or "*rapid*" refueling operations for turbine helicopters are discouraged, the FAA nevertheless provides guidelines to operators when such operations are necessary. *Hot*, or *rapid*, refueling is an operation where aircraft are refueled while the engines and/or rotorblades are turning. Some operators choose this type of refueling to reduce engine stress, lessen the likelihood of hot starts, and reduce start cycles. The guidelines are published in Advisory Circular AC 91-32B and Air Carrier Operations Bulletin 9-1990-1 (applicable to Part 135 operations) and are limited to turbine operations only. According to the guidelines, reciprocating powered aircraft *should never* be rapid refueled because of the volatility of aviation gasoline.

Both of the above documents stress training of both the flight and ground personnel in safe techniques and procedures prior to conducting hot refueling. The training should include all of the engine manufacturer's recommendations and procedures, as well as subjects on characteristics of jet fuel; fuel quality control procedures; operation of fuel vehicles and fuel tanks; avoidance of rotor blades; communications with the pilot, fuel spill procedures; proper grounding procedures; and personal injury response. Additionally, smoking must be prohibited in and around the refueling operation, and non-essential personnel, including passengers, should *not* be allowed either in the aircraft or within 50 feet of the helicopter. Part 135 air carriers must include all hot refueling procedures in their company operations manual.

"...reciprocating powered aircraft should never be rapid refueled because of the volatility of aviation gasoline."

For further details, please refer to the above documents and/or contact your local FSDO or principal operations inspector.

Air Carrier Safety Programs

The FAA has provided guidance in

Bulletin HBAT 99-19 for the development of comprehensive and effective safety departments in Part 121 and 135 air carriers. The bulletin also provides specific guidance on the functions of Director of Safety positions which are required for Part 121 air carriers. It also encourages Part 135 operators to designate a company official or manager as a Director of Safety to monitor operations and maintenance programs. Additionally, the guidance gives specific suggestions for the qualifications, experience, and training for a Director of Safety. For example, in the absence of any specific regulatory requirements, it suggests that the Director of Safety have one of the following qualifications: an ATP or Commercial Pilot certificate; an Aircraft Mechanic certificate; an Aircraft Dispatcher's certificate; three years experience in a supervisory position with a part 121 or 135 operator; three years comparable aviation military experience; or three years in a supervisory position with a U.S. Government agency that deals directly with aviation matters.

New T-Routes Implemented

The FAA has published guidance for the use of T-routes between southern Florida and Puerto Rico. The RNAV based T-routes

are located in the offshore airspace designated as Atlantic High Class A Airspace. The airspace capacity in this area has been constricted by ground based navigation aids and radar facilities. With the availibility of GPS (Global Positioning System), the FAA decided it was time to increase the capacity of the airspace thus providing better service. These routes will augment the conventional route structure and increase operational efficiency. Although these routes will normally be operated with radar surveillance, the T-routes will continue to operate during times when radar service is temporarily unavailable using non-radar procedures provided direct pilot - controller VHF communications are available along the route, the RNAV systems are approved for IFR, and TCAS is installed and operational for air carrier or commercial flights (the filed flight plan satisfies the TCAS requirement for Part 91 operations). Approval for use of T-routes are covered through the issuance of paragraphs B34 and B50 of operations specifications. No letter of authorization is required for Part 91 operators. Please see Bulletin FSAT 99-1 for further details or contact your local FSDO or principal inspector.

"Follow-on" Installation and Approval of GPS

Principal Avionics Inspectors (PAI) will be applying new guidance on the installation and approval of GPS navigation equipment used for primary means and supplemental navigation. Such installations can now be approved for "follow-on" approval after the initial issuance of a STC (Supplemental Type Certificate). However, installers must include Instructions for Continued Airworthiness. Also, an approved AFM (Aircraft Flight Manual) Supplement, or, for aircraft without an approved AFM, a Supplemental AFM must be prepared. Each supplement must include all the provisions pertaining to the system's normal operations, operating limitations, emergency or abnormal procedures, and performance data. For further details, please refer to bulletin HBAW 99-17 or contact your assigned PAI.

Flight/Duty Time Correction

In our last issue of *Airwaves* (Fall 1999, page 5) we erred in our discussion of the notice published in the Federal Register concerning the FAA's interpretation of regulations with regard to "reserve" time. We stated that FAR Sections 121.471 (b) and 135.265 (b) required "a rest period of 24 hours preceding the scheduled completion of any flight segment". This of course was not true. It should have stated that it required a rest period *during the* 24 consecutive hours preceding the planned completion of any flight segment. Also, we should have noted that the above cited regulations referred to *Part 121 domestic* and *Part 135 scheduled* operations. FAR Section 135.267 (d) applies to *unscheduled* operations and requires 10 consecutive hours of rest during the 24 hours preceding the planned completion of the assignment. Please note that the 24 hour look-back period for *domestic* and *scheduled* operations starts from the completion of each individual flight segment or leg, while for a Part 135 *unscheduled* operation it starts from the completion of the entire flight assignment. In any case the same interpretation of "reserve" time apples to both scheduled and unscheduled operations. As a reminder, the notice states that "reserve" time, while not defined in the regulations is a period of time when a flight crewmember must be available to report upon notice for duty, and, thus, cannot be counted as a part of any required rest period.

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Federal Aviation Administration
Windsor Locks Flight Standards District Office

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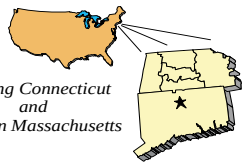

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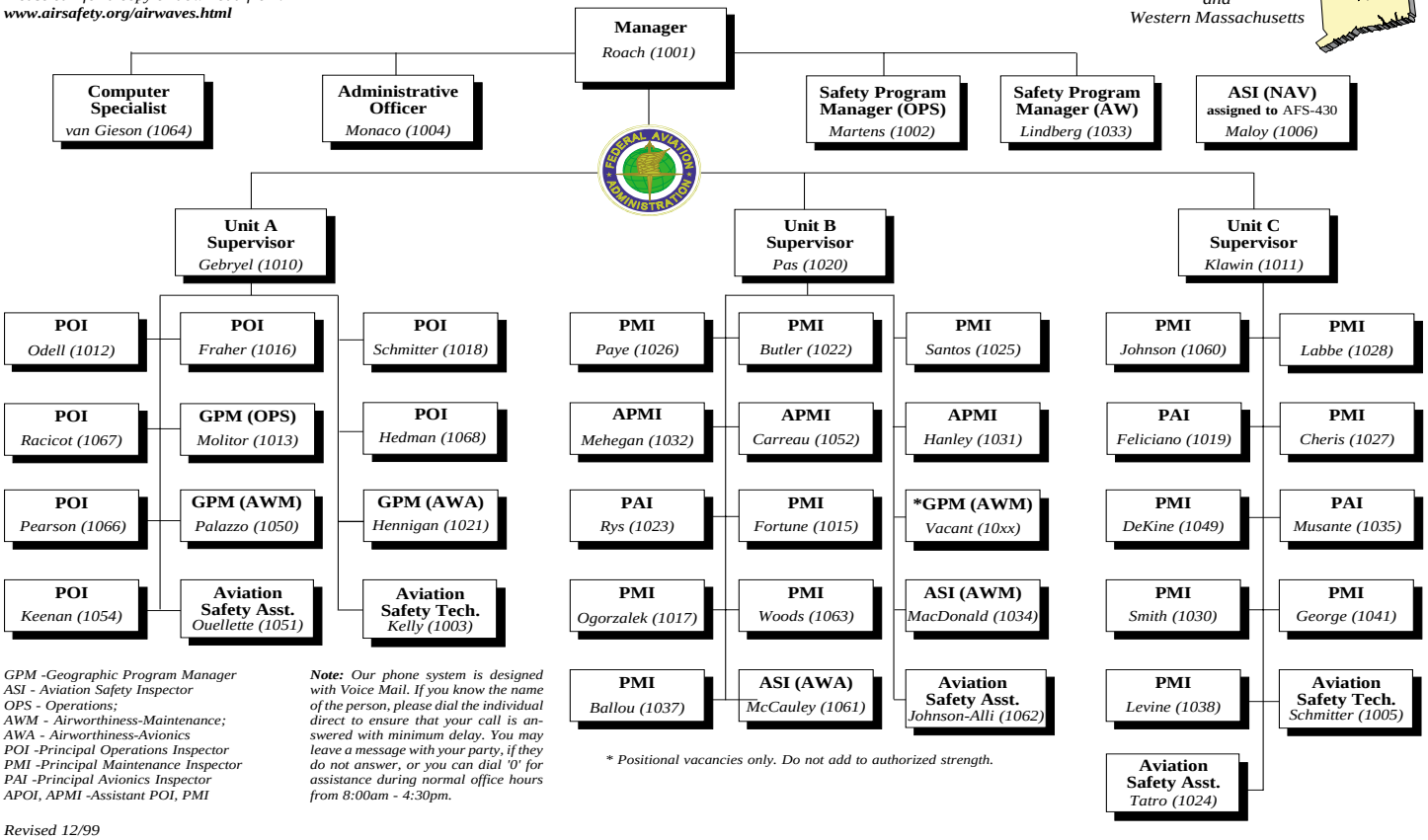

GPM -Geographic Program Manager
ASI - Aviation Safety Inspector
OPS - Operations;
AWM - Airworthiness-Maintenance;
AWA - Airworthiness-Avionics
POI -Principal Operations Inspector
PMI -Principal Maintenance Inspector
PAI -Principal Avionics Inspector
APOI, APMI -Assistant POI, PMI

Revised 12/99

***Note:** Our phone system is designed with Voice Mail. If you know the name of the person, please dial the individual direct to ensure that your call is answered with minimum delay. You may leave a message with your party, if they do not answer, or you can dial '0' for assistance during normal office hours from 8:00am - 4:30pm.*

** Positional vacancies only. Do not add to authorized strength.*

Airwaves

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